

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

What We Claim Is:

1. (currently amended) A computer implemented method for processing data for a spreadsheet system model, including the steps of:

providing a spreadsheet model specification in a computer system, the spreadsheet model specification including:

a plurality of types of item, in respect of which entries may potentially be provided in a spreadsheet to which the spreadsheet system model relates, the types of item including:

at least one first item type wherein first-item associated data is input data input into the computer system; and

at least two putative second item types wherein second-item associated data can be obtained from an operation performed on stored data, associated with at least one of said first or second item types, stored in a first database, and wherein second item types are not input data;

inputting said input data into the system;

automatically searching, using a processor for the computer system, the input data for at least one first item type;

automatically storing, using the processor, data associated with said at least one first item type found by the searching step, in the first database,

automatically performing an iterative determining process, using the processor, for determining whether the first database includes one or more prerequisite items necessary to determine each of a number of putative second item types, the iterative determining process comprising performing a plurality of iterations, wherein:

(a) each iteration of the determining process comprises successively automatically reading putative second item types and, for each read putative second item type, determining whether the first database includes one or more prerequisite items, in the form of first item types

and/or second item types, necessary to determine that putative second item type, and if the first database does include said one or more prerequisite items sufficient to determine said second item type, automatically storing that second item type in the first database, such that said second item type can be available as a potential prerequisite item for other second item types in subsequent iterations;

(b) wherein the iterative determining process is automatically terminated ~~by a terminating step~~ under the condition that an iteration of the determining process does not result in storage in the first database of a second item type which was not stored in the first database in a previous iteration of the determining process, thus indicating that all putative second item types logically determinable from said stored data have been determined and stored in the first database;

(c) wherein the iterative determining process performs repeated iterations according to step (a) indefinitely until the terminating condition of step (b) is met, each of the second and subsequent iterations assessing putative second item types which were assessed in one or more previous iterations as being unable to be determined due to lack of at least one prerequisite item, and re-assessing those putative second item types taking into account the second item types automatically stored into the first database by previous iterations;

wherein, at the termination of the iterative determining process, the storage of an item type in the first database is an indication that the stored item type may usefully be included in a spreadsheet in accordance with the spreadsheet system model; and

automatically outputting, using the processor, an indication that the spreadsheet system model can be produced if items of the model specification are stored into the first database.

2. (cancelled)

3. (cancelled)

4. (previously presented) The method as claimed in claim 1 wherein in the iterative determining process successively automatically reading second item types comprises successively automatically reading only second item types not stored in the first database.

5. (previously presented) The method as claimed in claim 1 wherein said first database further comprises modules; and, said method further comprising the step of storing said first item

types in said modules.

6. (previously presented) The method as claimed in claim 5 further comprising: configuring each said module to perform operations on said data associated with said first item types having at least one similar characteristic which are stored in a same said module.

7. (previously presented) The method as claimed in claim 1 further comprising the step of sorting said at least one first item type and said at least two second item types, said first-item associated data, and said second-item associated data as said at least one first item type and said at least two second item types, and said second-item associated data are stored in the first database.

8. (previously presented) The method as claimed in claim 1 wherein said at least one first item type and said at least two second item types further comprise predetermined items; and, said method further comprising: the system producing an output indication if said predetermined items are stored in the first database.

9. (previously presented) The method as claimed in claim 1 further comprising the step of determining whether a second item type from said at least two second item types can be stored in the first database by associating the second item type with an item determinant which specifies the or each prerequisite item for evaluation of the second item type.

10. (previously presented) The method as claimed in claim 9 further comprising a determinant step of searching the first database for the or each prerequisite item of the second item type.

11. (original) The method as claimed in claim 10 wherein the determining step includes a Boolean operation which produces a true or false result depending on whether the or each prerequisite item is located in the first database.

12. (original) The method as claimed in claim 11 wherein the first database includes one or more separate storage areas.

13. (previously presented) The method as claimed in claim 12 wherein the result of said determining step is true if the or each prerequisite item is located in the first database.

14. (previously presented) The method as claimed in claim 1 wherein said at least one first item type and said at least two second item types further comprise input items and the at least one first item type corresponds to said input items.

15. (previously presented) The method as claimed in claim 1 wherein the second item types have corresponding item determinants.

16. (cancelled)

17. (previously presented) The method as claimed in claim 15 further comprising the step of adding a second item type from said at least two second item types to the first database if the associated item determinant evaluates to true.

18. (previously presented) The method as claimed in claim 17 further comprising the step of providing a consolidated storage array for storing items of the second type and for evaluating said item determinants.

19. (previously presented) The method as claimed in claim 18 further comprising the step of evaluating the item determinant for each said second item type not stored in the first database.

20. (previously presented) The method as claimed in claim 19 further comprising the step of storing in the first database each said second item type for which the item determinant is true.

21. (previously presented) The method as claimed in claim 20 further comprising the step of storing said second item types in a second database if associated prerequisite items for said second item types are not located in the first database.

22. (previously presented) The method as claimed in claim 21 further comprising the step of repeating the evaluating step for any said second item type in the second database.

23. (previously presented) The method as claimed in claim 22 further comprising the storage step of storing in the first database each said second item type stored in the second database for which the item determinant is evaluated as true by the repeated evaluation step.

24. (previously presented) The method as claimed in claim 23 wherein the evaluating and storing steps are repeated until the storage step results in no additional said second item types being added to the first database.

25. (previously presented) The method as claimed in claim 23 further comprising repeating the evaluating and storing steps until all said evaluated item determinants are false.

26. (original) The method as claimed in claim 23 wherein the second database comprises a consolidated instance array.

27. (previously presented) The method as claimed in claim 26 further comprising the step of adding said second items for which the item determinants evaluate to false to the second database.

28. (previously presented) The method as claimed in claim 27 wherein any said second item added to the first database after the evaluating step is performed on the second database results in the removal of said added second item from the second database.

29. (previously presented) The method as claimed in claim 28 wherein the evaluation step is repeated on said second item types remaining in the second database if the remaining second item type is transferred to the first database.

30. (previously presented) The method as claimed in claim 29 further comprising the step of storing formula for said second item types in a formula database and evaluating each said first and/or second item type stored in the first database in accordance with an associated formula stored in a formula database.

31. (previously presented) The method as claimed in claim 30 further comprising the step of associating with each said second item type all of said first at least one item type and/or said at least two second item types required before the second item type can be evaluated.

32. (cancelled)

33. (previously presented) The method as claimed in claim 1, wherein the computer system determines which second item types to read by determining which second item types could exist, based on data in the first database.

34. (previously presented) The method as claimed in claim 1, wherein the spreadsheet model specification includes said at least two second item types by at least one of: listing a plurality of second item types; or, defining one or more classes of the second item type, from which a number of unambiguously identifiable second item types can be determined.

35. (previously presented) The method as claimed in claim 1 further comprising a step of automatically outputting a list of the first and second item types stored in the first database which can be usefully included in a spreadsheet in accordance with the spreadsheet system model.

36. (previously presented) The method according to claim 18 wherein one or more iterations of the iterative determining process comprises generating one or more putative second item types for subsequent reading and assessment.

37. (previously presented) The method according to claim 1 wherein at least one putative second item type is provided which can be assessed as being able to be determined only if: the first database includes one or more prerequisite items necessary to determine said second item type; and the first database does not include one or more other specific first or second item types, not being prerequisite items of said putative second item type.

38. (currently amended) A computer implemented method for processing data for a spreadsheet system model, including the steps of:

providing a spreadsheet model specification in a computer system, the spreadsheet model specification including a plurality of types of item, in respect of which entries may potentially be provided in a spreadsheet to which the spreadsheet system model relates, the types of item including: at least one first item type wherein first-item associated data is input data input into the computer system; and at least one putative second item type wherein second-item associated data can be obtained from an operation performed on stored data, associated with at least one of said first or second item types, stored in a first database, and wherein second item types are not input data;

automatically searching, using a processor for the computer system, the input data for at least one first item type;

automatically storing data associated with said at least one first item type found by the searching step, in the first database,

automatically performing an iterative determining process, using the processor, for determining whether the first database includes one or more prerequisite items necessary to determine each of a number of putative second item types, the iterative determining process comprising performing a plurality of iterations, wherein:

(a) each iteration of the determining process comprises successively automatically reading putative second item types; associating each respective second item type with an item determinant which specifies the or each prerequisite item for evaluation of said respective second item type at least one prerequisite item, for at least one putative second item type, being a second item type; searching the first database for the or each prerequisite item for at least each respective second item type which has not been stored in the first database in a previous iteration; applying a Boolean operation which produces a true or false result depending on whether the or each prerequisite item is located in the first database; and storing in the first database each second item type for which the item determinant is true; and

(b) the iterative determining process performs repeated iterations according to step (a) indefinitely until an iteration evaluates the determinants of all second item types not stored in the first database as false, thus indicating that all putative second item types logically determinable from said stored data have been determined and stored in the first database, so that said an iteration of the determining process does not result in storage in the first database of a second item type which was not stored in the first database in a previous iteration of the determining process; wherein, at the termination of the iterative determining process, the storage of an item type in the first database is an indication that the stored item type may usefully be included in a spreadsheet in accordance with the spreadsheet system model; and

automatically outputting, using the processor, an indication that the spreadsheet system model can be produced if items of the model specification are stored into the first database.